**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

1.    (Original)    An ECG system for large-surface recording of ECG signals, characterized by a first measuring means (10) for generating a first measured data record including at least one reading of the cardiac currents, at least one lead site of the first measuring means (10) being variable during the recording of the large-surface ECG signals, a second measuring means (20) for simultaneously generating a second measured data record including at least one reading of the cardiac currents, the lead site of the second measuring means (20) being spatially invariable during the recording of the large-surface ECG signals in order to obtain continuous measurement results, and a data processing system (30) having a means for synchronizing at least two signals, determined in a temporally offset fashion, of the first measured data record with at least one continuously detected signal of the second measured data record.

2.    (Original)    The ECG system as claimed in claim 1, characterized in that the first measured data record includes measurements of cardiac currents that have been obtained at thorax leads ($V_1$ - $V_6$).

3.    (Currently Amended)    The ECG system as claimed in claim 1 or 2, characterized in that the first measured data record includes measurements of the

cardiac currents from a temporal sequence of thorax leads ($V_1$ - $V_6$) at different thorax positions.

4.      (Currently Amended)      The ECG system as claimed in ~~at least one of the preceding claims~~ claim 1, characterized in that the second measured data record includes at least one measurement of the cardiac currents of an extremity lead (I, II, III, aVR, aVL, aVF).

5.      (Original)      The ECG system as claimed in claim 4, characterized in that the second measured data record includes signals of the cardiac currents of all the extremity leads (I, II, III, aVR, aVL, aVF).

6.      (Currently Amended)      The ECG system as claimed in ~~at least one of the preceding claims~~ claim 1, characterized in that the synchronization is performed with the aid of at least one prominent signal pattern of the second measured data record.

7.      (Original)      The ECG system as claimed in claim 6, characterized in that the means for synchronizing uses the signal of an R wave in the second measured data record for the purpose of synchronization.

8.      (Original)      The ECG system as claimed in claim 7, characterized in that the means for synchronizing uses the signal of the rise in the R wave in the second measured data record for the purpose of synchronization.

9. (Currently Amended) The ECG system as claimed in ~~at least one claims, 6 to 8~~ claim 6, characterized in that the means for synchronizing uses prominent signal markers of a number of measured ECG channels.

10. (Currently Amended) The ECG system as claimed in ~~at least one of the preceding claims~~ claim 1, characterized by a filter, a means for averaging and/or for determining the median for signals of the first measured data record and/or of the second measured data record.

11. (Currently Amended) The ECG system as claimed in ~~at least one of the preceding claims~~ claim 1, characterized by a means for correcting the baseline of individual cardiac currents.

12. (Currently Amended) The ECG system as claimed in ~~at least one of the preceding claims~~ claim 1, characterized in that the data processing system (30) can use the amplitude values of all the thorax readings to determine a graphic display of the instantaneous potential distribution automatically for any desired instant of a measurement relative to a time reference obtained by means of a signal of the second measured data record.

13. (Original) The ECG system as claimed in claim 12, characterized in that the graphic display is a QRST integral map display.

14. (Currently Amended) The ECG system as claimed in ~~at least one of the preceding claims~~ <u>claim 1</u>, characterized in that the first measuring means (10) and/or the second measuring means (20) are/is arranged in a contrivance, in particular a vest, that can be worn on the human body.

15. (Currently Amended) The ECG system as claimed in ~~at least one of the preceding claims~~ <u>claim 1</u>, characterized in that a variance of measurement results can be ascertained as a validity characteristic by means of the data processing system (30).

16. (Original) The ECG system as claimed in claim 15, characterized in that the variance of the measurement results can be ascertained with the aid of a measure of specific ECG potential levels, in particular R-R intervals, QT times and/or of a comparison of a mean value of a measure of an ECG potential level of one measurement phase with the mean value for measures of ECG potential levels of all the measurement phases.

17. (Original) A method for large-surface recording of ECG signals, characterized by recording at least one first measurement of the cardiac currents with the aid of a first measuring means (10), at least one lead site of a first measuring means (10) being varied during recording of the large-surface ECG signals, simultaneously recording at least one second measurement of the cardiac

currents with the aid of a second measuring means (20), the lead site of the second

measuring means (20) being spatially invariable during recording of the large-

surface ECG signals for the purpose of continuous measurement, the first and

second measuring means (10, 20) generating a first measured data record and a

second measured data record,

and immediately or at a later instant, at least two signals, determined in a temporally

offset fashion, of the cardiac currents of the first measured data record being

automatically synchronized in a data processing system (30) with at least one

continuously determined signal of the second measured data record of the cardiac

currents.


18.    (Original)    The method as claimed in claim 17, characterized in that at

least two first readings are obtained on the thorax in a fashion separated by an

intercostal spacing, in particular for the purpose of simulating a body surface

potential mapping.